

# **Understanding and Effectively Screening for Perinatal Depression in Women with Low Socioeconomic Status**

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## **Statement of the Research Problem**

Perinatal depression, depression with onset occurring during pregnancy (prenatal depression) or within the year following the delivery of an infant (postpartum depression), is one of the most common adverse outcomes associated with childbearing (Gaynes et al., 2005). Approximately 14.5% of women experience a new depressive episode during pregnancy, and another 14.5% experience a new episode in the first three months postpartum (Gaynes et al., 2005). Perinatal depression adversely impacts maternal well-being, mother-infant attachment, and child development, including the development of the stress response system (Beck, 1995; Beck, 1998; Center of the Developing Child at Harvard University, 2009; Posmontier, 2008a; Pomontier, 2008b). Women with postpartum depression, specifically, demonstrate lower personal, household, and social functioning and are 12 times less likely to return to pre-pregnancy functional levels by 26-weeks postpartum than their non-depressed counterparts (Posmontier, 2008a). Women with postpartum depression also experience reduced sleep efficiency - taking a longer time to fall asleep and waking more at night, which may contribute to lower functioning (Posmontier, 2008b). While postpartum depression does not appear to impact maternal functioning with respect to infant care, such as addressing basic needs and preventive care (Posmontier, 2008a), it does impact maternal-infant interaction.

## **Research Background and Hypotheses**

We know little about perinatal depression and related screening in women with low socioeconomic status, including women of diverse racial and ethnic backgrounds, in the United States (U.S.). Our limited understanding of the construct of perinatal depression and the validity of the tools most commonly used to screen for it in this population impairs our ability to understand and effectively screen for perinatal

depression across all women. There is a lack of clarity and agreement regarding the construct of perinatal depression, its symptoms, and etiology. There is debate regarding if perinatal depression is different from, or the same as, Major Depressive Disorder (Jolley & Betrus, 2007). Socioeconomic, racial, and ethnic group differences in the experience and presentation of perinatal depression are not well understood. Group differences are often identified in demographics but are not directly explored (Sue, 1999; van de Vijer & Tanzer, 2004). A clear understanding of the problem of perinatal depression across women is a prerequisite for effective screening in practice.

Regardless, perinatal depression screening continues with limited psychometric research on the use of commonly-used depression screening tools among women with low socioeconomic status representing diverse racial and ethnic groups in the perinatal context. Screening tools validated among middle to upper-income Caucasian women have been assumed valid for application across socioeconomic, racial, and ethnic groups in the U.S. (Rogler, 1999). Most notably, the comprehensive validation of the most commonly used perinatal depression screening tool, the Edinburgh Postnatal Depression Scale (EPDS) (Cox, Holden, & Sagovsky, 1987), in general, and specifically for application among low socioeconomic status women of diverse racial and ethnic backgrounds, is sparse.

The objective of this study was to advance accurate and effective screening methods and tools for perinatal depression towards identifying, diagnosing, and ultimately treating perinatal depression for women regardless of sociodemographic background. This study investigated aspects of the construct of perinatal depression and related screening in women with low socioeconomic status in three phases. Two phases evaluate postpartum depression, specifically, given the need to focus the scope of study but still provide insight into perinatal depression, in general. In Phase 1, this study evaluated the validity of screening tools used to identify postpartum depression with awareness of the limitations of our understanding of the construct. The article detailing this phase of the study, titled, “Validity of postpartum depression screening across socioeconomic groups: A review of the construct and common screening tools,” was accepted for publication in the *Journal of Healthcare for the Poor and Underserved* on February 20, 2012. In Phase 2, this study explored the meaning of perinatal depression symptoms independent of other forms of depression symptoms (e.g. those associated with Major Depressive Disorder), or manifestation of another phenomenon (e.g. stress) towards a clearer understanding of the problem. The related manuscript detailing this phase is currently in review with a social work journal. In Phase 3, this study analyzed the replicability of proposed structural models of the EPDS in the postpartum to inform our understanding of the factorial structure of this widely used tool in a sample of women with low socioeconomic status. The article detailing this phase of the study, titled, “Replicability of structural models of the Edinburgh Postnatal Depression Scale (EPDS)

in a community sample of postpartum African American women with low socioeconomic status,” was published in the *Archives of Women’s Mental Health* on February 2, 2012.

This study explored the following research questions: 1) a. What is the extent and nature of the literature on the validity of key screening tools in the postpartum context, in general, and specifically with women with low socioeconomic status? b. What do the psychometric properties of these tools tell us about their potential for bias in screening across socioeconomic groups? 2) How do women with low socioeconomic status representing different racial and ethnic groups explain and understand perinatal depression symptoms relative to other life experiences and depression symptoms at other times outside of pregnancy and the first year postpartum? 3) How does the published data on EPDS factor structure compare with its structure in a sample of postpartum African-American women with low socioeconomic status?

The following hypotheses were made: 1) Common screening tools used to identify symptoms of depression in the perinatal context in social work and public health practice have not been comprehensively validated for use with women with low socioeconomic status with possible implications for bias. 2) The socioeconomic context of women’s perinatal experiences impacts their experience and understanding of symptoms of depression and distinguishes these symptoms from depression symptoms at other times and distinguishes their experience of these symptoms from those of middle to upper-income women. 3) The factor structure of the EPDS in a sample of postpartum African American women is distinct from the factor structure in previously published data with middle to upper-income Caucasian populations.

## **Methodology**

This exploratory convergent mixed methods study investigated the construct of perinatal depression and the validity of related screening methods and tools in women with low socioeconomic status. The study was conducted in three phases, each addressing the corresponding research question, above. A synthesis of the findings explored implications for identification and diagnosis of perinatal depression in women with low socioeconomic status in social work and public health practice.

In Phase 1, as detailed in Lee King (accepted), an integrative literature review based on the methods of Whittemore and Knafl (2005) leveraged multiple literature search strategies to identify diverse literature addressing the validity of the EPDS, Beck Depression Inventory (Beck, Steer, & Brown, 1996), Center for Epidemiological Studies-Depression Scale (Radloff, 1977), and Postpartum Depression Screening Scale (Beck & Gable, 2000) from January 1980 thru January 2010. In Phase 2, narrative inquiry was adapted to construct a narrative from focus group data. A purposive sample of 32 women

was secured through voluntary recruitment conducted by four community-based organizations in the two largest cities of a Midwestern State. Four focus groups were hosted by these recruiting organizations and participants were organized by the racial and ethnic background of the populations the organizations served. Data recordings were transcribed and managed in QSR International's N8 software using Richard's (2005) guidelines. Data were analyzed using qualitative narrative (Reissman, 2008) and content (Reinharz, 1997) analysis employing several techniques to establish credibility (Lincoln & Guba, 1985). In Phase 3, as detailed in Lee King (2012), confirmatory factor analyses evaluated the underlying structure of the EPDS in a purposive community sample of 169 postpartum African American women of low socioeconomic status. Participants were identified through an exhaustive review of four local health department program files dated August 2006 to August 2010 in a Midwestern state of the U.S. Analyses were conducted in LISREL v. 8.80 using the diagonally weighted least squares (DWLS) estimator and the model comparison approach of five factor models from the literature. Findings were reported with respect to Brown's (2006) reporting guidelines.

## Results

In Phase 1, as detailed in Lee King (accepted), twenty articles were identified, eight of which explicitly included women with low-socioeconomic status. Only three of these articles directly evaluated validity. The screening tools reviewed lacked the comprehensive psychometric evaluation needed to support their extensive use across socioeconomically diverse populations that may result in missed opportunities to identify postpartum depression. This issue stemmed from serious limitations in the understanding of postpartum depression itself. The limitations of the literature made it difficult to draw conclusions regarding the construct validity and potential for bias of common screening tools across socioeconomic groups and identified a lack of clarity regarding the definition of postpartum depression, which extends to perinatal depression, across women and possible socioeconomic differences in this definition.

In Phase 2, the relationship of environmental (loss), interpersonal (absence of support), and individual (responsibility) factors both triggered and resulted from women's perinatal experiences, as well as distinguished perinatal depression symptoms from depression symptoms at other times. Perseverance was central to women's understanding of their experience throughout this process. The developmental and environmental context, characterized by loss, absence of support, responsibility, and perseverance, greatly impacted the meaning of perinatal depression symptoms. Effective screening and diagnosis of perinatal depression may require a comprehensive assessment of a woman's environment in addition to individual factors identified in current screening tools.

In Phase 3, as detailed in Lee King (2012), Tuohy and McVey's (2008) three-factor model (depression, anxiety, anhedonia) of the EPDS demonstrated the best fit to the data with a non-significant Satorra-Bentler (1994) scaled chi-square value (21.70,  $df=24$ ,  $p=0.60$ ) and the lowest Steiger and Lind's (1980) root mean square error of approximation (RMSEA) (0.00), and Bentler's (1995) standardized root mean square residual (SRMR) (0.05) values. Anxiety and depression factors were highly correlated across all models in this analysis, challenging their relevance as distinct factors. Models with distinct anxiety and depression factors correlated at  $r \geq 0.85$  were evaluated against models with the anxiety and depression factors combined into one. The Satorra and Bentler (2001) scaled difference chi-square test statistic demonstrated that the fit of the tested models to the data was significantly degraded when the anxiety and depression factors were combined, providing further support for Tuohy and McVey's (2008) three-factor model. Overall, confirmatory factor analyses of EPDS item responses replicated an existing factor model of the EPDS in a sample of African American women with low socioeconomic status. This provides initial structural evidence of the validity of the EPDS. However, due to the instability of the factor structure across studies and absence of direct racial, ethnic, and socioeconomic group comparisons, it is premature to point to this as evidence of its cross-cultural invariance.

## **Utility for Social Work Practice**

This study presents evidence that the primary screening tools used to measure perinatal depression symptoms in research and identify risk for perinatal depression in practice lack the comprehensive psychometric evaluation needed to support their extensive use in research and practice across socioeconomically diverse populations. A comprehensive evaluation of their validity, most notably their underlying factor structures and factorial invariance related to bias is needed. Given the current state of the literature and results of this study, these screening tools, including the EPDS, should be used cautiously among perinatal women of racially, ethnically, and socioeconomically diverse backgrounds.

The problems with screening tools largely stem from serious limitations in the current understanding of the construct of perinatal depression and its distinction from depression at other times. The results of this study point to an alternate understanding of and approach to screening for depression, which consider each woman's developmental and environmental context, to facilitate the necessary advances in identification, diagnosis, and ultimately treatment of perinatal depression. The life-course perspective should inform subsequent investigation of the construct of perinatal depression and validity of related screening tools among women with low socioeconomic status (Lu & Halfon, 2003).

A clear understanding of the problem of perinatal depression is a prerequisite to effective intervention in practice. Inattention to the limitations of the current understanding of perinatal depression and related screening methods may result in missed opportunities to identify women with depression in the perinatal context in research and practice. This research embraces the “Seek Justice” theme of the 24<sup>th</sup> National Symposium on Doctoral Research in Social Work. Evaluating the problem of perinatal depression among women with low socioeconomic status and working to address the performance of related screening tools in this context are prerequisites to identifying effective and efficacious solutions for all women and families impacted by perinatal depression. Our understanding of the problem of perinatal depression must both apply to and be inclusive of underserved populations to meet the social and economic justice commitment of social work and public health practice.

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